## **RAW SEQUENCE LISTING**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

| Application Serial Number: | /0/533.976 |
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| Source:                    | Py         |
| Date Processed by STIC:    | 2/21/06    |
| •                          |            |

# ENTERED



PE

RAW SEQUENCE LISTING DATE: 02/21/2006
PATENT APPLICATION: US/10/533,976 TIME: 12:50:46

Input Set : A:\21108.0025U2.TXT

4 <110> APPLICANT: Jeffrey W. Streb

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Joseph M. Miano
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  10 <130> FILE REFERENCE: 21108.0025U2
  12 <140> CURRENT APPLICATION NUMBER: 10/533,976
-> 13 <141> CURRENT FILING DATE: 2005-05-05
  15 <150> PRIOR APPLICATION NUMBER: PCT/US03/035645
  16 <151> PRIOR FILING DATE: 2003-11-07
  18 <150> PRIOR APPLICATION NUMBER: 60/425,111
  19 <151> PRIOR FILING DATE: 2002-11-07
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## RAW SEQUENCE LISTING DATE: 02/21/2006 PATENT APPLICATION: US/10/533,976 TIME: 12:50:46

Input Set : A:\21108.0025U2.TXT

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| 72 ataattggaa ttaatttgac tgtaaacaca aagatattag tacaaaatac gtgacgtag  | ga 120        |
| 73 aagtaataat ttcttgggta gtttgcagtt ttaaaattat gttttaaaat ggactatca  |               |
| 74 atgettaceg taacttgaaa gtatttegat ttettggett tatatataac ttegtataa  |               |
| 75 gtatgctata cgaagttatc cgttttttcg ttttttctcc agcccgggaa gatctataa  |               |
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| 89 ataattggaa ttaatttgac tgtaaacaca aaqatattag tacaaaatac gtgacgtac  |               |
| 90 aagtaataat ttcttgggta gtttgcagtt ttaaaattat gttttaaaat ggactatca  | •             |
| 91 atgcttaccg taacttgaaa gtatttcata acttcgtata tatatatcta tacgaagtt  |               |
| 92 tgaaacaccg ttttttcgtt ttttctccag cccgggaaga tctataactt cgtatatat  |               |
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| 94 cgacccagc   | 369           |
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| 107 ataattggaa ttaatttgac tgtaaacaca aagatattag tacaaaatac gtgacgta  | , 3           |
| 108 aagtaataat ttcttgggta gtttgcagtt ttaaaattat gttttaaaat ggactato  |               |
| 109 atgettaceg taacttgaaa gtatttegat tataactteg tatatagtat getataeg  |               |
| 110 gttatcaccg ttttttcgtt ttttctccag cccgggaaga tctataactt cgtatata  |               |
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## RAW SEQUENCE LISTING DATE: 02/21/2006 PATENT APPLICATION: US/10/533,976 TIME: 12:50:46

Input Set : A:\21108.0025U2.TXT

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|  | aagtaataat ttcttgggta gtttgcagtt ttaaaattat gttttaaaat ggactatcat  | 180   |
|  | atgcttaccg taacttgaaa gtatttataa cttcgtatag tatatattat acgaagttat  | 240   |
|  | ggaaacaccg ttttttcgtt ttttctccag cccgggaaga tctataactt cgtatagtat  | 300   |
| 129  | atattatacg aagttatgga aacaccggcc cattcctcct cggatccaag ggtgggcgcg  | 360   |
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| 138  | <223> OTHER INFORMATION: Description of Artificial Sequence; note=syn  | thetic  |
| 139  | construct  |   |
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| 142  | gagggcctat ttcccatgat tccttcatat ttgcatatac gatacaaggc tgttagagag  | 60  |
| 143  | ataattggaa ttaatttgac tgtaaacaca aagatattag tacaaaatac gtgacgtaga  | 120   |
|  | aagtaataat ttcttgggta gtttgcagtt ttaaaaattat gttttaaaaat ggactatcat  | 180   |
|  | atgcttaccg taacttgaaa gtatttctac cgttcgtata tatatatcta tacgaagtta  | 240   |
|  | tgaaacaccg ttttttcgtt ttttctccag cccgggaaga tctataactt cgtatatata  | 300   |
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| 156<br>157<br>159<br>160<br>161<br>162<br>163<br>164<br>165<br>166   | <pre>&lt;223&gt; OTHER INFORMATION: Description of Artificial Sequence; note=syntal construct &lt;400&gt; SEQUENCE: 9 aaggtcgggc aggaagaggg cctatttccc atgattcctt catatttgca tatacgatac aaggctgtta gagaataat tagaattaat ttgactgtaa acacaaagat attagtacaa aatacgtgac gtagaaagta ataatttctt gggtagtttg cagttttaa aattatgttt taaaatggac tatcatatgc ttaccgtaac ttgaaagtat ttcgattct tggctttata tatcttgtgg aaaggacgaa acaccgtgct cgcttcggca gcacatatac taaaattgga acgatacaga gaagattagc atggccctg cgcaaggatg acacgcaaat tcgtgaagcg ttccatattt ttacatcagg ttgttttct gttttacat caggttgttt ttctgtttgg</pre>  | 60<br>120<br>180<br>240<br>300<br>360               |
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| 156<br>157<br>159<br>160<br>161<br>162<br>163<br>164<br>165<br>166<br>170<br>171<br>172<br>174<br>175<br>176<br>178                      | <pre>&lt;223&gt; OTHER INFORMATION: Description of Artificial Sequence; note=synt     construct &lt;400&gt; SEQUENCE: 9 aaggtcgggc aggaagaggg cctatttccc atgattcctt catatttgca tatacgatac aaggctgtta gagaagataat tagaattaat ttgactgtaa acacaaagat attagtacaa aatacgtgac gtagaaagta ataattctt gggtagtttg cagtttttaa aattatgtt taaaatggac tatcatatgc ttaccgtaac ttgaaagtat ttcgattct tggctttata tatcttgtgg aaaggacgaa acaccgtgct cgcttcggca gcacatatac taaaattgga acgatacaga gaagattagc atggcccctg cgcaaggatg acacgcaaat tcgtgaagcg ttccatattt ttacatcagg ttgttttct gttttacat caggttgtt ttctgtttgg ttttttttt acaccacgtt tatacgccgg tgcacggtt acca &lt;210&gt; SEQ ID NO: 10 &lt;211&gt; LENGTH: 707 &lt;212&gt; TYPE: DNA &lt;213&gt; ORGANISM: Artificial Sequence &lt;220&gt; FEATURE: &lt;223&gt; OTHER INFORMATION: Description of Artificial Sequence; note=synt     construct &lt;400&gt; SEQUENCE: 10 gatccgacgc cgccatctct aggcccgcg cggcccctc gcacagactt gtgggagaag</pre>   | 60<br>120<br>180<br>240<br>300<br>360<br>420<br>464 |
| 156<br>157<br>159<br>160<br>161<br>162<br>163<br>164<br>165<br>166<br>167<br>170<br>171<br>172<br>174<br>175<br>176<br>178<br>179<br>180 | <pre>&lt;223&gt; OTHER INFORMATION: Description of Artificial Sequence; note=synt</pre>  | 60<br>120<br>180<br>240<br>300<br>360<br>420<br>464 |
| 156<br>157<br>159<br>160<br>161<br>162<br>163<br>164<br>165<br>166<br>170<br>171<br>172<br>174<br>175<br>176<br>178<br>179<br>180<br>181 | <pre>&lt;223&gt; OTHER INFORMATION: Description of Artificial Sequence; note=synt     construct &lt;400&gt; SEQUENCE: 9 aaggtcgggc aggaagaggg cctatttccc atgattcctt catatttgca tatacgatac aaggctgtta gagaagataat tagaattaat ttgactgtaa acacaaagat attagtacaa aatacgtgac gtagaaagta ataattctt gggtagtttg cagtttttaa aattatgtt taaaatggac tatcatatgc ttaccgtaac ttgaaagtat ttcgattct tggctttata tatcttgtgg aaaggacgaa acaccgtgct cgcttcggca gcacatatac taaaattgga acgatacaga gaagattagc atggcccctg cgcaaggatg acacgcaaat tcgtgaagcg ttccatattt ttacatcagg ttgttttct gttttacat caggttgtt ttctgtttgg ttttttttt acaccacgtt tatacgccgg tgcacggtt acca &lt;210&gt; SEQ ID NO: 10 &lt;211&gt; LENGTH: 707 &lt;212&gt; TYPE: DNA &lt;213&gt; ORGANISM: Artificial Sequence &lt;220&gt; FEATURE: &lt;223&gt; OTHER INFORMATION: Description of Artificial Sequence; note=synt     construct &lt;400&gt; SEQUENCE: 10 gatccgacgc cgccatctct aggcccgcg cggcccctc gcacagactt gtgggagaag</pre>   | 60<br>120<br>180<br>240<br>300<br>360<br>420<br>464 |



RAW SEQUENCE LISTING DATE: 02/21/2006 PATENT APPLICATION: US/10/533,976 TIME: 12:50:46

Input Set : A:\21108.0025U2.TXT

| 183 | 3 aaggaaactc accctaactg taaagtaatt gtgtgttttg agacta | taaa tatcccttgg  | 300      |
|-----|--|------------------|----------|
| 184 | 4 agaaaagcct tgtttgtgct cgcttcggca gcacatatac taaaat | tgga acgatacaga  | 360      |
| 185 | 5 gaagattage atggeeeetg egeaaggatg acaegeaaat tegtga | agcg ttccatattt  | 420      |
| 186 | 6 tgttcctcag aggaactgac aagcacccta acatcctatt ggaggo | tcac tcacgttttt  | 480      |
| 187 | 7 tctattttgt ttcttgacag cagagetegt tgeteactgt ataget | cagg ttggcctgac  | 540      |
|     | B actgatgagg ttctccagtg actgcctcta cctacctact gggatg |                  | 600      |
|     | 9 ccaagccacg ggctcctgtg tgagtgtgtg tgtgtgtgta taagtg |                  | 660      |
|     | O cacgtaagag gacaaggagt tggttcttgc tctcagatca tcaago |                  | 707      |
|     | 2 <210> SEQ ID NO: 11                                |                  |          |
| 193 | 3 <211> LENGTH: 523                                  |                  |          |
| 194 | 4 <212> TYPE: DNA                                    |                  |          |
| 195 | 5 <213> ORGANISM: Artificial Sequence                |                  |          |
|     | 7 <220> FEATURE:                                     |                  |          |
| 198 | 3 <223> OTHER INFORMATION: Description of Artificial | Sequence; note=s | ynthetic |
| 199 |  | - '              | •        |
| 201 | 1 <400> SEQUENCE: 11                                 |                  |          |
|     | 2 tttaaactta gaacgaagcg agtataaaaa ggattattta acccta | aaac qqattcaqqa  | 60       |
|     | 3 tttgttataa tatcaagtac agtcggctac ataaggtcac cacatg |                  | 120      |
|     | 4 attctatggc cttatatacc taccaagagc ctgagtactc tcggat |                  | 180      |
|     | getgegaeat etgteacece attgategee agggttgatt eggetg   |                  | 240      |
|     | gegggtgtee cetteeteee teacegetee atgtgegtee eteeeg   |                  | 300      |
|     | 7 gtcgaagagg acgacettee eegaatagag gaggaceggt etteg  |                  | 360      |
|     | gtagetgege tectetgeta gaacetecaa acaagetete aaggte   |                  | 420      |
|     | gtagggtagt caagcttcca agactccaga cacatccaaa tgaggc   |                  | 480      |
|     | tctgctttct tttgtagttc ctgcaattta attttcgttt aaa      |                  | 523      |
|     | 2 <210> SEQ ID NO: 12                                |                  |          |
| 213 | 3 <211> LENGTH: 497                                  |                  |          |
| 214 | 4 <212> TYPE: DNA                                    |                  |          |
| 215 | 5 <213> ORGANISM: Artificial Sequence                |                  |          |
| 217 | 7 <220> FEATURE:                                     |                  |          |
| 218 | 3 <223> OTHER INFORMATION: Description of Artificial | Sequence; note=s | ynthetic |
| 219 | construct  |                  |          |
| 221 | 1 <400> SEQUENCE: 12                                 |                  |          |
| 222 | 2 atttgcatgt cgctatgtgt tctgggaaat caccataaac gtgaaa | tgtc tttggatttg  | 60       |
|     | 3 ggaatettat aagttetgta tgagaceaet ettteeeata gggegg |                  | 120      |
| 224 | gtggggccac gagctgagtg cgtcctgtca ctccactccc atgtcc   | cttg ggaaggtctg  | 180      |
| 225 | 5 agactagggc cagaggcggc cctaacaggg ctctccctga gcttca | ggga ggtgagttcc  | 240      |
| 226 | s cagagaacgg ggctccgcgc gaggtcagac tgggcaggag atgccg | tgga ccccgccctt  | 300      |
| 227 | 7 cggggagggg cccggcggat gcctcctttg ccggagcttg gaacag | actc acggccagcg  | 360      |
| 228 | B aagtgagttc aatggctgag gtgaggtacc ccgcagggga cctcat | aacc caattcagac  | 420      |
| 229 | cactctcctc cgcccatttt tggaaaaaaa aaaaaaaaa aaaaac    | aaaa cgaaaccggg  | 480      |
| 230 | ccgggcgcgg tggttca '                                 |                  | 497      |
| 232 | 2 <210> SEQ ID NO: 13                                |                  |          |
| 233 | 3 <211> LENGTH: 266                                  |                  |          |
| 234 | 4 <212> TYPE: DNA                                    |                  |          |
| 235 | 5 <213> ORGANISM: Artificial Sequence                |                  |          |
| 237 | 7 <220> FEATURE:                                     |                  |          |
| 238 | 3 <223> OTHER INFORMATION: Description of Artificial | Sequence; note=s | ynthetic |
| 239 | construct  |                  |          |
|     |  |                  |          |



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### RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/533,976

DATE: 02/21/2006 TIME: 12:50:46

Input Set : A:\21108.0025U2.TXT

Output Set: N:\CRF4\02212006\J533976.raw

| 241  | <400> SEQUENCE: 13   |  |  |  |  |                         |
|--|--|--|--|--|--|-------------------------|
| 242  | aaggtcgggc aggaagaggg  | cctatttccc   | atgattcctt   | catatttgca   | tatacgatac   | 60                      |
| 243  | aaggctgtta gagagataat  | tagaattaat   | ttgactgtaa   | acacaaagat   | attagtacaa   | 120                     |
| 244  | aatacgtgac gtagaaagta  | ataatttctt   | gggtagtttg   | cagtttttaa   | aattatgttt   | 180                     |
| 245  | taaaatggac tatcatatgc  | ttaccgtaac   | ttgaaagtat   | ttcgatttct   | tggctttata   | 240                     |
| 246  | tatcttgtgg aaaggacgaa  | acaccg   |  |  |  | 266                     |
| 248  | <210> SEQ ID NO: 14  |  |  |  |  |                         |
| 249  | <211> LENGTH: 374  |  |  |  |  |                         |
| 250  | <212> TYPE: DNA  |  |  |  |  |                         |
| 251  | <213> ORGANISM: Artif:   | icial Sequer   | nce  |  |  |                         |
|  |  |  |  |  |  |                         |
| 253  | <220> FEATURE:   |  |  |  |  |                         |
|  | <220> FEATURE: <223> OTHER INFORMATION   | ON: Descript   | tion of Art:   | ificial Sequ   | uence; note=sy   | nthetic                 |
|  |  | ON: Descript   | tion of Art:   | ificial Sequ   | nence; note=sy   | nthetic                 |
| 254<br>255   | <223> OTHER INFORMATION  | ON: Descript   | tion of Art  | ificial Sequ   | lence; note=sy   | nthetic                 |
| 254<br>255<br>257                                    | <223> OTHER INFORMATION  | _  |  | _  | _  | nthetic                 |
| 254<br>255<br>257<br>258                             | <223> OTHER INFORMATION CONSTRUCT <400> SEQUENCE: 14   | gggggtcaca   | gtaggtggca   | tcgttccttt   | ctgactgccc   |                         |
| 254<br>255<br>257<br>258<br>259                      | <223> OTHER INFORMATION construct <400> SEQUENCE: 14 ttatagggag ctgaagggaa   | gggggtcaca<br>cgatattgag   | gtaggtggca<br>ctccgaacct   | tegtteettt   | ctgactgccc<br>cgccgccggt   | 60                      |
| 254<br>255<br>257<br>258<br>259<br>260               | <223> OTHER INFORMATION CONSTRUCT <400> SEQUENCE: 14 ttatagggag ctgaagggaa gccccccgca tgccgtcccg   | gggggtcaca<br>cgatattgag<br>ccatggaatt                             | gtaggtggca<br>ctccgaacct<br>cgaacgctga                             | tcgttccttt<br>ctcgccctgc<br>cgtcatcaac                             | ctgactgccc<br>cgccgccggt<br>ccgctccaag                             | 60<br>120               |
| 254<br>255<br>257<br>258<br>259<br>260<br>261        | <223> OTHER INFORMATION CONSTRUCT <400> SEQUENCE: 14 ttatagggag ctgaagggaa gccccccgca tgccgtcccg gctccgtcgc cgccgcgccg                       | gggggtcaca<br>cgatattgag<br>ccatggaatt<br>ctaggcggga               | gtaggtggca<br>ctccgaacct<br>cgaacgctga<br>acacccagcg               | tegtteettt<br>etegeeetge<br>egteateaae<br>egegtgegee               | ctgactgccc<br>cgccgccggt<br>ccgctccaag<br>ctggcaggaa               | 60<br>120<br>180        |
| 254<br>255<br>257<br>258<br>259<br>260<br>261<br>262 | <223> OTHER INFORMATION CONSTRUCT <400> SEQUENCE: 14 ttatagggag ctgaagggaa gccccccgca tgccgtcccg gctccgtcgc cgccgcgccg gaatcgcggg cccagtgtca | gggggtcaca<br>cgatattgag<br>ccatggaatt<br>ctaggcggga<br>gagtggcgcc | gtaggtggca<br>ctccgaacct<br>cgaacgctga<br>acacccagcg<br>ctgcaatatt | tcgttccttt<br>ctcgccctgc<br>cgtcatcaac<br>cgcgtgcgcc<br>tgcatgtcgc | ctgactgccc<br>cgccgccggt<br>ccgctccaag<br>ctggcaggaa<br>tatgtgttct | 60<br>120<br>180<br>240 |

264 gaccactctt tccc



VERIFICATION SUMMARY

PATENT APPLICATION: US/10/533,976

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TIME: 12:50:47

Input Set : A:\21108.0025U2.TXT

Output Set: N:\CRF4\02212006\J533976.raw

13 M:271 C: Current Filing Date differs, Replaced Current Filing Date